T C R

2003 TRANSPORTATION CONCEPT REPORT

DISTRICT 11 Planning Division
California Department of Transportation

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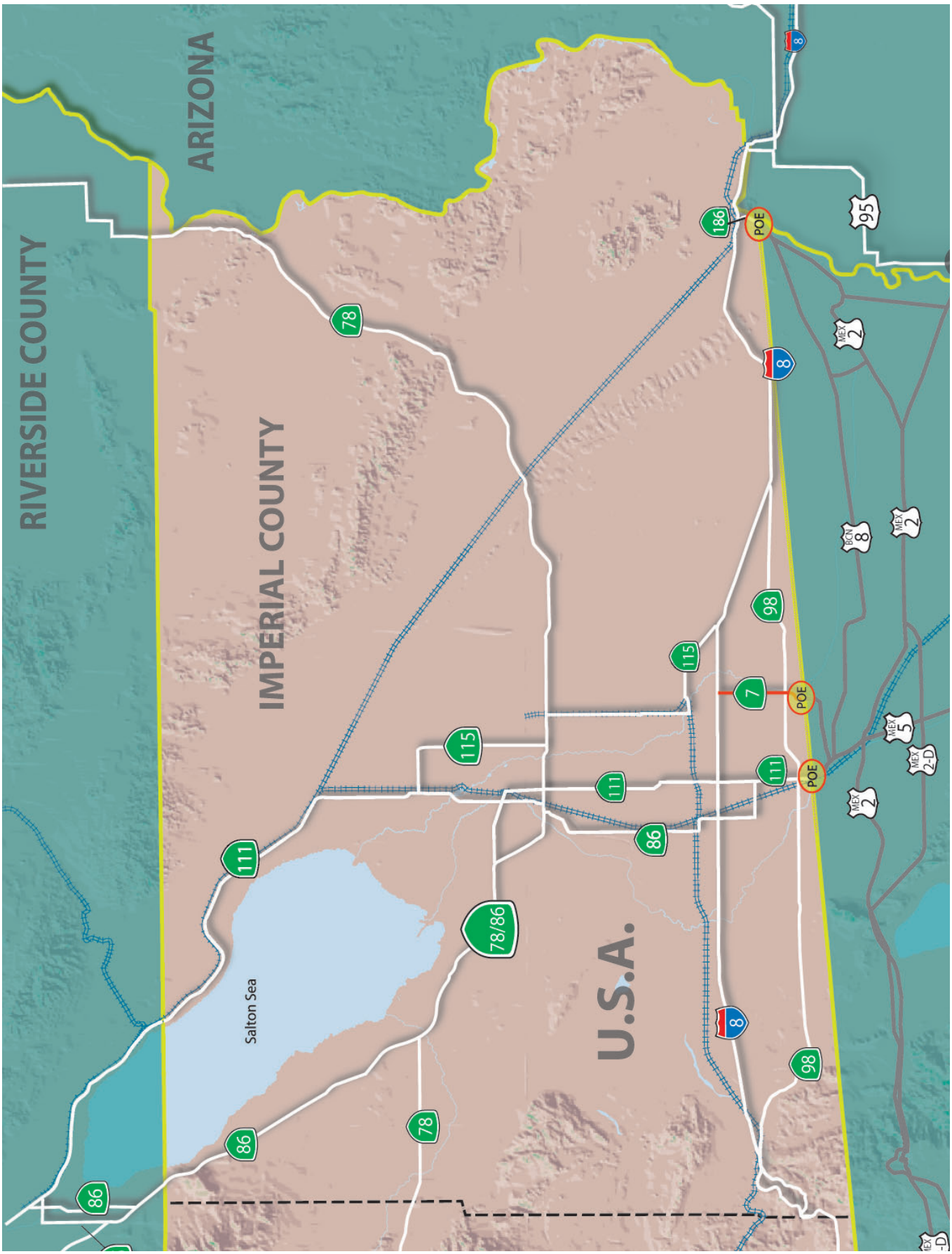
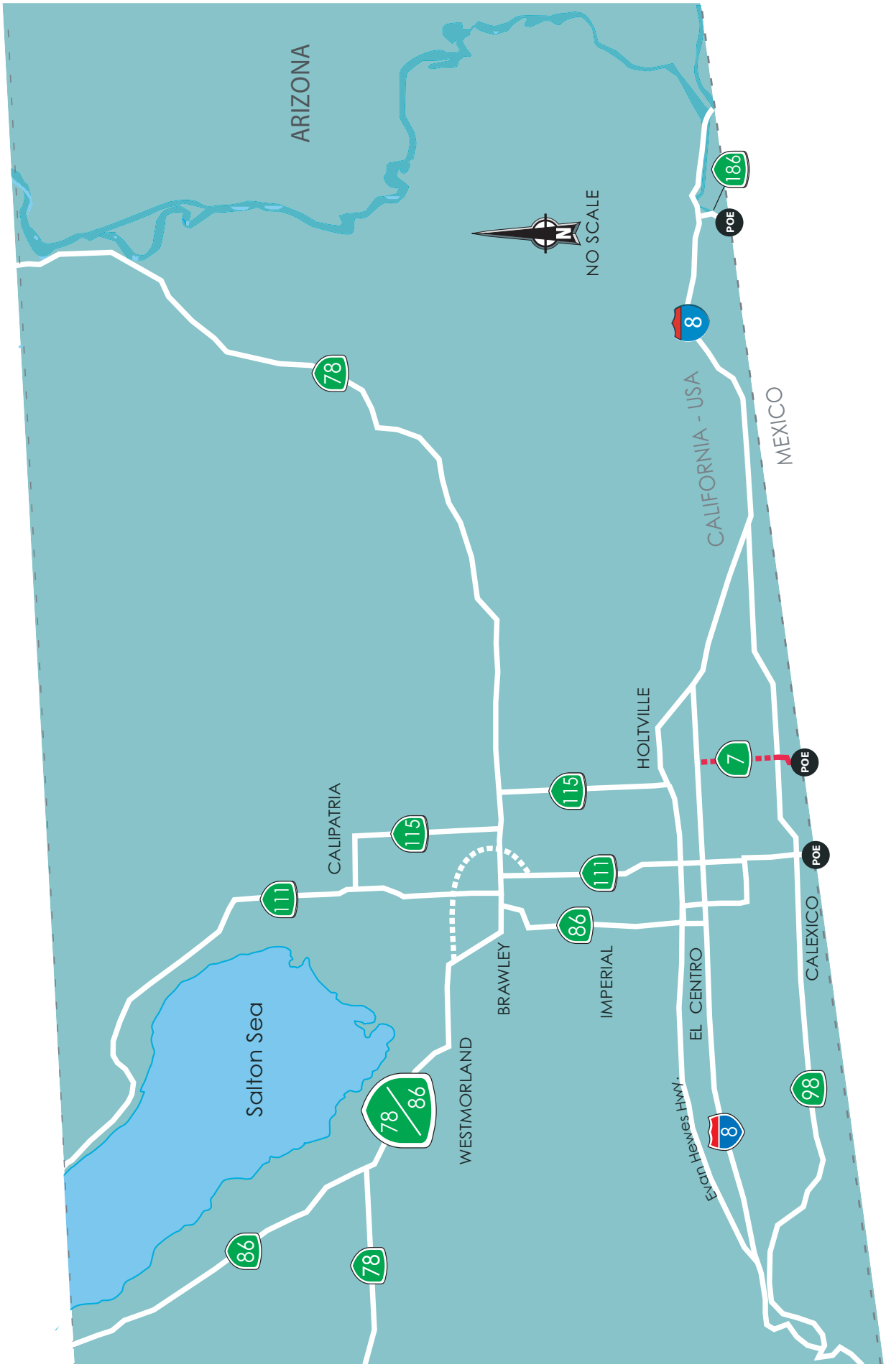
STATE ROUTE 7 AREA MAP



SR-7 LOCATION MAP



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2020 Transportation Concept Facility Improvements

Table S-2 shows the highway facility improvements for SR-7.

2020 Concept LOS

TABLE S-1

EXISTING FACILITY AND 2020 TRANSPORTATION CONCEPT

Segment/County/ Post Mile	Location	#of Lanes/ Facility Type	ADT		Peak Hour V/C Ratio		Operating LOS			
			2001	2020	2001	2020	2020	2020		
1) IMP 0.0-1.2	U.S./Mexico Border to SR-98	4E	10,000	43,000	0.23		0.47	A	B	D
2) IMP 1.2-6.7	SR-98 to I-8	U	N/A	38,000	N/A		0.42	N/A	B	D

4E= Four Lane Expressway

ADT = Average Daily Traffic
U = Unconstructed

LOS = Level of Service
V/C = Volume to Capacity Ratio

NOTE: V/C Ratios and Operating LOS are based on sketch level planning analysis and are only intended for use as a general planning guideline. Application of other traffic analysis methods may result in different V/C ratios and LOS's.

TABLE S-2 **2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS**

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour Operating LOS	Concept LOS
1) IMP 0.0-1.2	U.S./Mexico Border to SR-98	No Improvements	B	D
2) IMP 1.2-6.7	SR-98 to I-8	Construct 4E	-	D

4E= Four Lane Expressway
LOS = Level of Service

LEVEL OF SERVICE (LOS) DEFINITIONS

LOS	V/C	Congestion Delay	Traffic Description
		(Used for two and four lane freeways and expressways)	
C	0.46 - 0.65	None to Minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
D	0.70-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
E	0.93-1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
		(Used for six lane freeways and expressways)	
D	0.75-0.92	Minimal to Substantial	Approaches unstable flow, heavy volumes,very limited freedom to maneuver.
E	0.93-1.00	Significant	Extremely unstable flow, maneuverability extremely poor.
		(Used for freeways and expressways)	
F0	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown, stop and go points, longer stop periods.

LOS is defined as a qualitative measure describing operational conditions and, motorists and passengers perceptions of these conditions within a traffic stream. An LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety.

Introduction and Statement of Planning Intent

This Transportation Concept Report (TCR) is a planning document which describes the Department's basic approach to the development of a given highway corridor. Considering financial constraints and projected travel demand, this TCR establishes a twenty year transportation planning concept for State Route 7 (SR-7) and identifies modal transportation options needed to achieve the concept. The concept includes operating Levels of Service (LOS), modal improvements, and new technologies. The TCR also considers potential long-term needs for the corridor beyond the twenty year planning period. The long term needs focus on the Post-2020 Ultimate Transportation Corridor (UTC).

The TCR is a preliminary planning document that leads to subsequent programming and the project development process. The specific nature of improvements (i.e. number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the Project Study Report (PSR), Project Report (PR), or design phases.

Each TCR must be viewed as an integral part of a planned system. The TCR is based on the completion of the 20 year system. The system has been developed to meet anticipated travel demand generated from regional growth forecasts. Removal of any portion of a route from the system could adversely affect travel on parallel or intersecting routes.

The TCR is prepared by District 11 staff in cooperation with local and regional agencies. The TCR is updated when conditions change or new information is obtained.

The focus of the TCR is the 2020 Transportation Concept, which includes State highway, transit, goods movement and international border, aviation, bicycle/pedestrian, environmental, system management and transportation demand management, intelligent transportation systems, and maintenance components.

Route Description

SR-7 in Imperial County is a four lane highway with access control which begins at the United States/Mexico Calexico East International Border Crossing, approximately 6.5 miles to the east of the existing Calexico/Mexicali Port of Entry (POE). The approximate 6.7 mile route follows a north/south alignment from the border crossing to SR-98 and will eventually continue on a north/south alignment to the future terminus at Interstate 8 (I-8). The second section of SR-7 from SR-98 to I-8 is scheduled for completion in the year 2005.

Purpose of Route

SR-7 will serve international, commercial, commuter, and recreational traffic. SR-7 is needed to provide adequate border infrastructure to accommodate the anticipated increase in commercial carrier activity between the U.S. and Mexico. This new port of entry supports the approved North American Free Trade Agreement (NAFTA) between the United States and Mexico.

TABLE 1

EXISTING FACILITY CLASSIFICATIONS

Classifications	Included	Boundaries
Blue Star Memorial Highway System		
Scenic Highway System		
International Border Trade Corridors	✔	U.S./Mexico Border to I-8
Intermodal Corridors of Economic Significance	✔	U.S./Mexico Border to I-8
Interregional Road System	✔	U.S./Mexico Border to I-8 & also designated as a part of the High Emphasis Routes
Lifeline Routes	✔	U.S./Mexico Border to I-8
Maintenance Service Level 1		
Maintenance Service Level 2	✔	U.S./Mexico Border to I-8
Maintenance Service Level 3		
Routes with Kingpin to Rear Axle Tractor/ Semi-Trailers Advisory Signs		
Federal Functional Classification	✔	Is considered an "Other Principal Arterial" from the U.S./Mexico Border to I-8
National Highway System	✔	U.S./Mexico Border to I-8
Freeway and Expressway System	✔	U.S./Mexico Border to I-8
Surface Transportation Assistance Act Network	✔	State Terminal Access Routes to the National Network from the U.S./Mexico Border to I-8

Existing Facility Classifications

Table 1 shows the existing facility classifications for SR-7.

International Border Trade Corridors (IBTC): The IBTC system consists of highway and rail facilities of statewide significance that provide for the movement of goods and people. The system serves to facilitate and increase trade, ensure safe cross-border trucking, and to improve the multimodal transportation network leading to the major international border crossings.

Intermodal Corridors of Economic Significance (ICES): The Intermodal Corridors of Economic Significance System is composed of California's major seaports and airports and a network of National Highway System routes and National Highway System Connectors that link these intermodal facilities most directly, conveniently and efficiently in time and distance to intrastate, interstate and international markets.

Interregional Road System (IRRS): This system was established by State legislation and identifies projects that will create the most adequate interregional system leading to all economic centers of the State. The IRRS consists of State routes located outside the boundaries of urbanized areas with populations greater than 50,000 residents. In some cases, routes have been continued through urban areas to provide connections for continuations of the IRRS routes. Routes in urbanized areas are not eligible for IRRS funding. High emphasis routes that are a major trunkline of interregional routes are included as a sub-category of the IRRS. This sub-category forms the backbone of the State's highway network.

Lifeline Routes: A lifeline route is a route that must remain open immediately following a major earthquake, or for which pre-planning for detour and/or expeditious repair and reopening can guarantee through movement. The focus is on routes that allow for the immediate movement of emergency equipment and supplies into a region or through a region.

Maintenance Service Level (MSL): For maintenance programming purposes, the State Highway System has been classified as Class 1, 2, and 3 highways based on the Maintenance Service Level (MSL) descriptive definitions. The MSL 1 designation contains route segments in urban areas functionally classified as Interstate, Other Principal Arterial - Freeway or Expressway, or Other Principal Arterial. MSL 2 contains route segments classified as an Other Principal Arterial - Freeway or Expressway or Other Principal Arterial not in MSL 1, and route segments functionally classified as minor arterials not in MSL 3. MSL 3 indicates a route or route segment with the lowest maintenance priority. Typically, MSL 3 contains route segments functionally classified as major or minor collectors and local roads, route segments with relatively low traffic volumes, and route segments being considered for relinquishment, rescission, or where a new alignment will replace the existing facility. Route segments where the District does not anticipate spending money, and route segments where route continuity is necessary, are also assigned an MSL 3 designation.

Federal Functional Classification: Streets and highways are grouped into classes or systems according to the character of service they are intended to provide. Functional classification defines the nature of this channelization process by defining the role that any particular road or street should play in serving the flow of trips on a highway network.

National Highway System (NHS): The NHS was authorized in 1991 by the Intermodal Surface Transportation Efficiency Act (ISTEA) and established by subsequent Federal legislation in 1995. The designated routes include all routes in the Interstate system and other urban and rural routes.

Freeway and Expressway System (F&E): This system was established by State legislation, Streets and Highways Code Section 250-257, and includes most major State routes. It is the legislative intent that the F&E routes be constructed as freeways or expressways.

Surface Transportation Assistance Act (STAA) Network: The Federal Highway Administration (FHWA) has designated a national network of routes available to larger trucks. This includes

the Interstate highway system plus other designated highways. Certain categories of large tractor-semitrailer combinations are restricted to this system. The State must allow those vehicles with STAA designation reasonable access between the national network and truck terminals and service facilities.

Existing Facility

SR-7 is a four lane expressway with access control from the international border to SR-98. Table 2 shows the existing facility geometrics.

Table 3 shows arterial streets that parallel or intersect SR-7 that could provide alternative routes for vehicular traffic in Imperial Valley.

Imperial County Transit (ICT) has 9 fixed bus routes, one of which provides early morning express service to Imperial Valley College. The City of El Centro is the hub of all routes and is linked via El Centro to Niland, via El Centro to Calexico, and directly to Holtville. The only non-El Centro based ICT routes run between Winterhaven and Yuma and between Bombay Beach and Brawley. Weekday and Saturday services are provided for the regular routes except for the Friday only Winterhaven/Yuma service, and the Thursday-only service between Bombay Beach and Brawley.

With the passage of the Americans with Disabilities Act in 1990, the area-wide Independent Mobility (AIM) organization was established to provide lift-equipped demand responsive service for those who are unable to use ITC's fixed route service. By statute, AIM must operate during the same hours and days as ITC. The Imperial Valley Association of Governments funds ITC and AIM as well as Brawley, Imperial, El Centro, Salton City and Calexico Dial-A-Rides.

The City of Calexico offers demand response transportation to senior citizens and the physically and mentally challenged only within the City limits of Calexico. Transportation is provided daily, with additional transportation made available directly to the Calexico Nutrition site, Monday through Friday. To request transportation or for additional information, you may call (760) 768-2115.

Greyhound Lines Inc., a private intercity bus service, operates an express route connecting San Diego, El Cajon, El Centro and Calexico to Yuma (and other cities in Arizona). It goes as far as Phoenix, and has one flag stop in Ocotillo, California (a flag stop is an informal, usually designated bus stop where the bus will stop only if hailed by a customer). Six runs daily are made to San Diego from Calexico via El Centro, and four runs into Arizona from Calexico via El Centro.

Numero Uno Shuttle, a subsidiary of Laidlaw (owner of Greyhound), provides every hour, on the hour shuttle service between Calexico and El Centro throughout the day and early evening, everyday from the hours of 6am to 8pm, fifteen times a day.

Currently, bicycle travel is allowable on SR-7 and utilizes the shoulders of the expressway. This particular route is designated as "other suggested routes" and under California law, all roadways are open for cycling unless posted closed. These are not official bikeways, but suggested routes for cycling. Bicyclists should carefully choose to use facilities that are appropriate for their skills.

TABLE 2

EXISTING FACILITY GEOMETRICS

Segment/ Post Mile	# Lanes & Facility Width	Shoulder Width Outside	Shoulder Width Inside	Maximum R/W Width	Median Width	Grade Line
1) 0.0-1.2	4E @ 3.7 (12)	3.0 (10)	2.4 (8)	62.6 (204)	16.5 (54)	F
2) 1.2-6.7	4E @ 3.7 (12)	3.0 (10)	1.5 (5)	70.3 (230.6)	16.5 (54)	F

Widths Are in Meters, Followed by Feet.
4E= Four Lane Expressway

R/W= Right of Way
F= Flat

TABLE 3

SELECTED ARTERIAL STREETS

Segment	P/I	Route	Boundaries
1-2	P	SR-111*	U.S./Mexico POE to Imperial County Line
2	-	SR-115*	I-8 to SR-111
1-2	I	SR-98*	I-8 West to I-8 East
2	I	I-8*	San Diego County Line to Arizona State Line
1-2	P	Orchard Road**	SR-115 to King Road
1-2	P	Barbara Worth Road**	SR-98 to Evan Hewes Highway
1-2	P	Bonds Corner Road**	I-8 to SR-98
1-2	P	Bowker Road**	SR-98 to Evan Hewes Highway
2	I	Heber Road**	La Brucherie Road to Orchard Road
2	I	McCabe Road**	Silsbee Road to Orchard Road
1-2	P	Anderholt Road**	SR-98 to Evan Hewes Highway

P/I = Parallel/Intersect
* Freeway / Highway

POE = Port of Entry
** Minor Arterial Road

Socio-Economics

This section includes land use, corridor growth, and demographic analyses for existing and future conditions in this corridor.

Corridor Growth and Demographics

Imperial County is one of the most productive agricultural regions in the world. In 1901 the Imperial Canal was completed by the California Development Company. The Canal diverted water for irrigation from the Colorado River just upstream of the Mexican border. The climate in the Imperial Valley allows for plants to grow throughout the year. The mild winters and hot summers produce fantastic plant yields. Locally, some of the crops grown are lettuce, cauliflower, broccoli, citrus, wheat, sugar beets, alfalfa, sudan grass, carrots, tomatoes, and onions. Livestock production is the second major form of agricultural production, and includes beef cattle, sheep, wool, dairy products and swine.

The majority of the population growth within Imperial County will occur adjacent to existing communities. The relatively new Calexico East Port of Entry at the United States/Mexico border will assist in accommodating expected increases in international trade as a result of the NAFTA and policies established by the World Trade Organization (WTO). Associated growth of maquiladora industries (twin plants on both sides of the border) will also have an influence on the amount and location of population increases in Imperial County and Mexicali, Mexico. Table 4 shows population, housing and employment growth for jurisdictions in Imperial County.

TABLE 4

POPULATION, HOUSING AND EMPLOYMENT GROWTH

Location	Year	Total Population	% Change from Base Year	Total Housing Units	% Change from Base Year	Total Employment	% Change from Base Year
Calexico	2000	28,013	N/A	6,675	N/A	8,808	N/A
	2010	7,727	34.7	8,428	26.3	11,127	26.3
	2020	47,320	69.0	10,684	60.1	11,939	35.5
El Centro	2000	38,333	N/A	11,301	N/A	16,444	N/A
	2010	40,407	5.4	12,073	6.8	21,138	28.5
	2020	42,775	11.6	13,070	15.7	21,105	28.3
Holtville	2000	5,614	N/A	1,594	N/A	1,806	N/A
	2010	6,962	24.0	2,010	26.1	6,852	279.4
	2020	8,080	43.9	2,395	50.3	6,766	274.6
Imperial	2000	8,746	N/A	2,651	N/A	3,748	N/A
	2010	13,742	57.1	4,289	61.8	6,215	65.8
	2020	19,429	122.1	6,397	141.3	7,533	100.9
Brawley	2000	22,927	N/A	6,848	N/A	4,739	N/A
	2010	18,388	-19.8	5,594	-18.3	12,470	163.1
	2020	32,732	42.8	10,631	55.2	12,182	157.1
Westmorland	2000	1,856	N/A	513	N/A	386	N/A
	2010	2,584	39.2	762	48.5	539	39.6
	2020	3,247	74.9	1,003	95.5	550	42.5
Calipatria	2000	4,485	N/A	1,045	N/A	585	N/A
	2010	8,724	94.5	1,350	29.2	2,941	402.7
	2020	9,639	114.9	1,611	54.2	3,079	426.3
Unincorporated Area	2000	46,747	N/A	11,877	N/A	38,030	N/A
	2010	76,836	64.4	23,125	94.7	21,509	-43.4
	2020	114,231	144.4	37,603	216.6	27,113	-28.7

Source: Southern California Association of Governments (SCAG)

The existing Calexico POE is the second busiest U.S./Mexico international border crossing in California, and it is the third busiest in the United States. In 1992, the Calexico POE processed a northbound total of 7.8 million pedestrians, 7.9 million private vehicles, and 145,000 commercial trucks. Overall, the Calexico POE experienced an 18.3 percent increase in the number of crossings from 1986 to 1990. This was the most rapid growth rate of any major U.S./Mexico POE for that time period. The United States General Services Administration determined that the Calexico POE was overburdened and was operating beyond its capacity, hence, in 1996, the Calexico East Port of Entry was opened to commercial vehicles.

The Calexico East POE is only commercial crossing in Imperial County with approximately 700,000 annual truck crossings in both directions. The value of goods passing through the Calexico East POE has almost tripled from an estimated $3 billion in 1994 to $8.1 billion by 1999. Ninety-eight (98%) percent of this trade is transported by trucks. Table 5 provides a perspective on the number of border crossings at the Calexico POE and the Calexico East POE.

Directly south of Calexico, California, across the international border, lies the capital of Baja California, Mexicali, Mexico. It is a thriving and growing city, with an official population of 438,377 in 1990, 765,000 in 2000, and a projected population of 925,000 in 2010. The economy of Mexicali has been historically centered around the agricultural industry. Major crops include grains, vegetables and cotton. The economy of Mexicali has recently been stimulated by the development of maquiladora industrial plants. These plants provide labor-intensive manufacturing services for U.S.-based industries. Mexicali currently has 191 maquiladoras, an increase from the 172 plants operating in 1998.

Intergovernmental Review

A methodology to ensure compatibility between land use and the statewide transportation system is the Caltrans Intergovernmental Review process. Potential future development projects are analyzed to determine what impacts they may have on State transportation facilities. Intergovernmental Review also analyzes proposed developments to ensure consistency with regional and State transportation planning documents, as seen in Table 6.

One trip inducing project in the table is the development of an agricultural conveyor belt. A presidential permit application was submitted in April 2000 by Aggregate Products Inc. to run an agricultural conveyor belt from Calexico to Mexicali. The conveyor belt's proposed location, if approved, is 3,600 feet east of the Calexico East POE and would span the All American Canal and Alamo River intersection.

The Gateway of the Americas Specific Plan Area is comprised of 16 separate private properties, as well as those controlled by Federal, State, and local agencies. It is located adjacent to the international boundary approximately 5 miles east of the City of Calexico. The planning area includes approximately 1,775 gross acres which are bounded on the west by the Ash Canal, on the north by a line parallel to and approximately one-quarter mile north of the centerline of

TABLE 5

NORTH-BOUND BORDER CROSSINGS

Location	Year	Conveyance Arrivals: Trucks	Conveyance Arrivals: Buses	Conveyance Arrivals: Passenger Vehicles	Person Arrivals: On Foot (Pedestrians)
Calexico POE	2002	N/A	1,609	5,866,865	6,619,797
Calexico East POE	2002	269,412	390	3,325,434	2,400

State Route 98 (SR-98), on the east by the west bank of the Alamo River, and on the south by the northern right-of-way of the All American Canal (Gateway of the Americas Specific Plan, County of Imperial, January 1997).

Community Planning

Community Planning is an integral part of the 2020 Transportation Concept. With California's burgeoning population, new paradigms for community development and new ways to plan for and provide transportation infrastructure and services must be crafted. These tools will enhance effective management of California's transportation system in the coming decades and provide cost-effective infrastructure improvements that promote livable communities.

The purpose of Community Planning is to integrate land use, transportation, and community values. Community Planning within Caltrans has several broad goals, which include: 1) compiling and sharing information regarding community based planning, 2) building and strengthening partnerships to facilitate community based transportation planning approaches at local, regional, and State levels, 3) enhancing the integration of community based planning approaches in Caltrans culture and processes, and 4) providing training, knowledge and tools that facilitate community based planning.

Effective Community Planning allows for the creation of transportation projects that enjoy public support and are easier to develop and deliver because of consistency with community values.

Within Caltrans, the Office of Community Planning includes three functional groups: Intergovernmental Review (IGR)/California Environmental Quality Act (CEQA), Community Based Transportation Planning (CBTP), and Public Participation (PP). These groups share a common theme of linking land use decision-making with transportation planning.

TABLE 6

TRIP INDUCING DEVELOPMENT PROJECTS

Segment	Project Name	Dwelling	Square	Acreage	Trips Generated Daily
1-2	Gateway Specific Plan Area (SPA)	-	77,324,273	1775 ac (718 ha)	214,964 @ buildout
1-2	Focal Corporation Gateway SPA (Industrial)	-	6,970,075 (64.8 ha)	160 ac	
1	SoCal Gas Company Line (Gas Line)	-	1,398,371	32.1 ac (13.0 ha)	-
1	Aggregate Products Inc. - Mexicali-Calexico Conveyor Belt	-	-	-	-
	TOTALS:	-	85,692,719	1,967.1 (796.1)	214,964

Source: Caltrans District 11 IGR/CEQA Branch

NOTE: Acreage is denoted as (hectares) within the parentheses

Future Transportation Concept (2020)

The 2020 Transportation Concept is comprised of the facility type, the number of lanes, average daily traffic, peak hour Volume to Capacity (V/C) Ratio, peak hour operating Level of Service (LOS), and the Transportation Concept LOS. The 2020 traffic projections for SR-7 are based on the Imperial County Transportation Model and assume completion of the future regional transportation system. The 2020 traffic projections are subject to change based on periodic traffic forecasting model adjustments and ongoing supplemental transportation studies. The 2020 Transportation Concept is shown in Table S-1 in the summary of this report.

Concept Rationale

An intermodal approach is necessary in order to provide for future traffic growth in the Imperial Valley and in the SR-7 corridor.

Highway Component

Table 7 displays the 2020 concept via ADT, V/C ratio, LOS, and UTC. Proposed new intersections along the unconstructed portion of SR-7 from SR-98 to I-8 are being considered at Heber Road.

TABLE 7

2020 TRANSPORTATION CONCEPT

Segment/ County/ Post Mile	Location	# of Lanes/ Facility Type	ADT*	Peak Hour V/C Ratio	Peak Hour Operating LOS**	Concept LOS***	UTC
1) IMP 0.0-1.2	U.S./Mexico Border to SR-98	4E	43,000	0.47	B	D	6E
2) IMP 1.2-6.7	SR-98 to I-8	4E	38,000	0.42	B	D	6E

ADT = Average Daily Traffic
V/C = Volume to Capacity
LOS = Level of Service
UTC = Ultimate Transportation Corridor
4E, 6E = (4, 6) Lane Expressway

* Future ADT's were derived from Caltrans District 11 GIS/Travel Forecasting Branch

** Peak Hour Operating LOS include provisions of state highway, transit, arterial improvements, and auxiliary lanes

*** Concept LOS is based on the Caltrans District 11 LOS standard

and McCabe Road according to the July 2000 Project Report. Also being considered is the construction of a grade separated interchange at SR-7 and SR-98 if future traffic and population growth show a need for the project.

The Department is required by legislation to develop a Ten-Year State Highway Operation and Protection Plan. The Plan identifies rehabilitation needs, schedules for meeting those needs, strategies for cost control, and program efficiencies.

Legislation also requires the development of a four-year State Highway Operation and Protection Program (SHOPP). SHOPP projects are limited to capital improvements related to maintenance, safety, and rehabilitation of State highways and bridges. The SHOPP reflects the first four years of the Ten-Year State Highway Operation and Protection Plan.

District 11 developed a 2002 Ten-Year SHOPP Needs Plan. There is one project on SR-7 as shown in Table 8.

State Highway Improvement Program (STIP)

The State Highway Improvement Program (STIP) is a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other sources.

Each new STIP includes projects carried forward from the previous STIP plus new projects, and cash reserves, from among those proposed by regional agencies in their Regional Transportation Improvement Programs (RTIP). The STIP also

TABLE 8

TEN-YEAR SHOPP PROJECTS

Post Mile	Location	Description	Fiscal Year
0.0-1.2	International Border to SR-98	Rehabilitate Pavement	2009/10

includes projects from the Department's Interregional Transportation Improvement Program (ITIP).

Programmed funds can be found in Table 9 below. The scheduling for SR-7 is as follows: environmental requirements were cleared in January 2000, right of way acquisition and design are both underway, and construction is scheduled to be completed in 2005.

In order to find funding and speed up the construction of SR-7, a feasibility study was completed in December 1997 to consider the possibility of placing a toll at the POE in response to Senate Bill 1501 authored by Kopp. The conclusion was that the placement of a toll along SR-7 was not feasible.

TABLE 9 PROGRAMMED FUNDING

Funding Program	Funds
2002 STIP ‡ RTIP	$ 37,885,000
2002 STIP ‡ ITIP	$ 10,094,000
Grandfathered STIP funds	$ 10,342,000
Non-STIP funding (TEA-21)	$ 6,000,000
TOTAL:	$ 64,321,000

One major project that may have an effect on the ADT of SR-7 is State Route 115. It has been proposed to extend SR-115 from Evan Hewes Highway south to I-8 and SR-7, and then relinquish the portion of SR-115 from Evan Hewes Highway to I-8. SR-7 would create an alternative route to SR-111 once SR-7 ties into the SR-115 extension, which is currently being studied as a Project Study Report/Project Development Support.

State Route 98 will also undergo major widening and will gain additional passing lanes to accommodate the forecasted traffic. Widening SR-98 to 4/6 lanes from SR-111 to SR-7 is scheduled for construction within the next twenty years. There are currently three alternatives for the project , two of which bypass the City of Calexico, and the other expands SR-98. None of the three alternatives has been chosen, and a decision won't be made until the environmental phase is completed in 2005.

The Brawley Bypass on SR-78/SR-111 has resolved environmental clearance and is expected to be opened by the year 2007. The bypass will reduce travel times and the problems of running SR-78 and SR-111 through the City of Brawley.

Transit Component

Currently, there is no passenger rail service directly to Imperial County. However, the California State Legislature has officially designated a commuter rail route, referred to as the Los Angeles/Coachella Valley/Calexico Rail Corridor. This corridor was analyzed in depth in the Los Angeles/Coachella/Calexico Rail Corridor Study done by Caltrans in March 1995. The Imperial County Transportation Plan Rail Vision (adopted February, 1998) provided further analysis of rail issues. The plan indicated that the future of passenger rail service in Imperial County is dependent upon a variety of factors, including:

- Determining whether there is a market for passenger rail and if so, can rail compete with bus and air travel
- The selection and implementation of immigration and customs' procedures
- The need for expensive rail improvements in both Mexico and the United States when considering Mexico City to Los Angeles travel
- The impact from rail privatization in Mexico
- Commitment by the rail authority in Mexico to passenger rail
- Restrictions on operating equipment from foreign countries on U.S. rail lines

Regarding bus services, it is expected that existing systems will continue to operate. Expansion of bus services could occur as population increases and if demand is warranted.

Goods Movement and International Border Component

Under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, additional emphasis was placed on the movement of goods in an integrated transportation network. It is essential to identify critical elements within major

goods movement corridors in order to develop effective strategies for managing, maintaining and improving transportation system connectivity. The Transportation Equity Act for the 21st Century (TEA-21) authorized highway, highway safety, transit and other surface transportation programs for 6 years. TEA-21 builds on the initiatives established in the ISTEA. TEA-21 adds some new programs that address traffic safety, economic competitiveness and international trade.

ISTEA required studying the advisability of establishing a discretionary international border crossing program and the development of a multimodal assessment of existing and emerging international trade corridors within Canada, Mexico and the United States. Because of District 11's geographic location adjacent to the State of Baja California, Mexico, and the passage of the NAFTA, it is expected that transportation and trade issues related to the California/Mexico international border will increase in importance for Caltrans District 11. Improvements connecting SR-7 from the Mexico POE to I-8 will accommodate increased trade due to NAFTA and the policies implemented by the WTO.

As indicated in an earlier section of this report, SR-7 is a part of various programs designating its importance to the region, state, national, and international perspectives. These facility classifications include programs such as the IBTC, ICES, IRRS, Lifeline Routes, NHS, F&E, and STAA.

The Imperial County Transportation Plan Rail Vision adopted in 1998 addresses the regional need to re-open the rail line owned by the San Diego & Arizona Eastern Railway (SD&AE). Closed in June 1983 due to a trestle fire, the rail line will connect San Diego and northern Baja California.

Aviation Component

The Imperial Valley Economic Development Corporation is studying the feasibility of locating a cargo airport within Imperial County. The report was due for completion in September, 2002, and will determine whether or not the the Lindbergh Field cargo airport should be relocated somewhere in the Imperial Valley region instead of Otay Mesa's Brown Field.

General Rodolfo Sanchez Taboada International Airport is located just east of the City of Mexicali. The airport has regularly scheduled jet service to various cities in Mexico and is in the process of being privatized. Table 10 shows Imperial Valley airport information.

TABLE 10
IMPERIAL COUNTY AIRPORTS

Airport	Operations	Breakdown
Calexico International Airport	74/day	74% transient general aviation 22% local general aviation 6% air taxi
Imperial County Airport	202/day	43% transient general aviation 41% local general aviation 7% air taxi 6% commercial 3% military
Holtville Airport	64/day	84% military 9% transient general aviation 7% local general aviation
Brawley Municipal Airport	137/day	59% local general aviation 40% transient general aviation 1% air taxi
Cliff Hatfield Memorial Airport	92/week	92% local general aviation 8% transient general aviation

Bicycle/Pedestrian Component

The County of Imperial Bicycle Master Plan written in May 2000 identifies Route #5 (El Centro/Barbara Worth Road/Calexico/Dogwood Road) as the nearest proposed bicycle route to SR-7. This bike route will be considered a class II bike lane, which is a striped lane for one-way bike travel identified by special signs, lane striping, and other pavement markings. The estimated usage of this route, that will reside northwest of SR-7, is considered to be high and the safety concerns of the route are in the medium range. The number of schools and parks that the route passes will be 12, and it will also pass by 2 employment centers. The total cost of this proposed bikeway is estimated at about $352,000.

Environmental Component

Table 11 is a summary of impacts and mitigation measures that are addressed by the SR-7 expressway extension. The final Environmental Impact Statement/Environmental Impact Report was completed in September of 2000.

System Management and Transportation Demand Management Component

To further enhance the efficient movement of people and goods, Transportation System Management and Transportation Demand Management improvements could be implemented where appropriate.

Intelligent Transportation Systems (ITS) Component

There are two facilities located at the Calexico East POE. The first being the Commercial Vehicle Enforcement Facility (CVEF) which processes all commercial trucks coming into the United States. The other facility is the customs facility, which oversees all passenger vehicle traffic entering the country.

The CVEF at the Calexico East POE is built on 20 acres and is less than a quarter mile north of the U.S. Customs commercial port. The purposes of the CVEF facility are to provide safety inspections

TABLE 11

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact Category	Alternative 1 (Preferred)	Mitigation measures
Air Quality	No exceedences: Temporary PM10 impacts to local receptors during construction	Use best construction techniques
Noise (Note: BarHt= Barrier height needed to reduce noise level shown a minimum of 5 decibels)	Barriers considered for 3 receptor sites: Site dBA BarHt 7 64 1.2m 8 63 1.2m 9 65 1.2m (1.2m = 4 feet)	Noise berms
Vegetation	2 willows and 8 California fan palms removed	Replace plants
Species of Concern	>13 burrowing owls ~27 burrows	Excavate burrows and evacuate owls during non-breeding season
Homes Displaced	3	Relocation assistance
Agricultural Lands:		Purchase of conservation easements
Prime	93 hectares (229 acres)	
Statewide	27 hectares (66 acres)	
Total+	120 hectares (295 acres)	
Fields divided=	18	
Visual Resources	Moderate to low reduction in visual quality	Negative impact mitigated through sensitive design and planning
Traffic and Circulation	Meets objectives	Not applicable
Traffic Operation Energy Efficiency	More efficient than No-Build	

and ensure regulatory compliance for all commercial vehicles crossing through the international border between California and Mexico. This provides California with the ability to enforce Federal mandates, which require uniform enforcement of truck weight and size limits in all states, in particular, those trucks operating in interstate commerce on the Interstate Highway System and those transporting containerized cargo to and from international ports. Another purpose of the CVEF is to increase the State's ability to inspect overweight loads, safety violations, and licensing requirements. The Calexico East POE has two moving visual inspection and weigh lanes and four inspection bays. The facility has the mechanisms in place for weigh-in-motion and PrePass systems, and both systems have recently been activated.

The Secure Electronic Network for Traveler's Rapid Inspection (SENTRI) Program, a National Performance Review Program, is deploying Dedicated Commuter Lanes (DCLs) and Exit Control Systems (ECSs) at Otay Mesa, San Ysidro, El Paso, Hidalgo, Calexico and other southwest international POEs. Both DCLs and ECSs utilize automated vehicle identification for positive identification of vehicles. Calexico is scheduled to be equipped with a DCL system sometime in the future. License Plate Readers are also used at the Calexico East POE for the inbound and outbound lanes.

Future SENTRI applications for border crossings include the development of the In-Vehicle Voice Verification System. A border crossing commuter will be asked to record a voice message that will be stored in the Immigration and Naturalization Service database. When crossing the border, the commuter will articulate the same predetermined phrase into a unit that looks like a telephone handset. The vocalization will verify that the speaker is a participant in the program. The entire process will take only a few seconds and will allow an expeditious crossing.

Additional detailed information regarding new technology issues at the U.S./Mexico border is included in the Southern California Priority Corridor ITS Strategic Development Plan – Commercial Vehicle/International Border Crossing Element (Final Draft, January 1998) prepared by consultants' Parsons Brinckerhoff Farradyne Inc. and Transcore.

Maintenance Component

Maintenance of the State highway system is an integral part of the transportation concept. Highway maintenance is defined as the preservation, upkeep and restoration of roadway structures. The definition of roadway structures includes highways, toll bridges, and appurtenant facilities. Maintenance also includes the operation of highway facilities and services to provide satisfactory and safe highway transportation. The maintenance staff schedules routine maintenance procedures to keep traffic delays to a minimum.

The Pavement Condition Survey is an inventory of the existing pavement surface conditions for the entire State highway network. The survey is a continuous process that documents the severity and extent of surface distress.

There are several different types of surface distress that are discussed extensively in the Caltrans Pavement Evaluation Manual (January 2000). Rigid distress faulting is a vertical displacement of abutting slabs at the transverse joint creating a "step" in the pavement. Alligator 'A' cracking is characterized by a single, longitudinal crack in the wheel path. Alligator 'B' cracking displays interconnected or interlaced cracks in the wheel path, forming a series of small polygons. Alligator 'C' cracking has interconnected or interlaced cracks outside the wheel path. SR-7 currently does not exhibit any of these surface distress categories.

Air Quality Conditions

SR-7 is located in the Salton Sea Air Basin (SSAB). The Imperial County Air Pollution Control District (APCD) administers air quality planning for Imperial County.

The Imperial County portion of the SSAB is designated a "moderate" nonattainment area for both particulate matter (PM_{10}) and ozone (O_3), under both national and state standards.

Particulate Matter (PM_{10})

A binational study was conducted to determine the causes of PM10 standard exceedences on the U.S. side of the border and to determine the effect of cross-border transport on these exceedences. The findings revealed that the highest contributions to PM10 concentrations within Imperial County, where violations have been recorded, are made by geological dust (70-90%), motor vehicle exhaust (10-15%), and vegetative burning (10%). These are the predominant emissions sources on both sides of the border. The particles are associated with unpaved roads, vacant lots, agricultural activities such as burning, and federal enforcement activities along the U.S.-Mexico border.

In October 2001, the Environmental Protection Agency (EPA) signed a final notice finding that Imperial County attained the PM10 National Ambient Air Quality Standard (NAAQS) by the statutory attainment date, December 31, 1994. This determination would have allowed Imperial County to retain its classification as a "moderate" PM10 nonattainment area. In making the finding, the EPA exempted the consideration of emissions (transport) that originated from Mexico. Although air quality in Imperial County actually continued to violate the PM_{10} standard at the time this determination was made, the EPA felt that Imperial County would have attained the PM_{10} NAAQS except for the transport from Mexico, and essentially agreed with the Imperial County Air Pollution Control District position that the PM_{10} pollution problems in Imperial County couldn't be solved without controls on sources in Mexico. A recent court decision ordered the EPA to redesignate Imperial County to a "serious" classification for PM_{10}.

Imperial County officials are continuing to seek ways to reduce local emissions to help improve public health. The EPA is also continuing to work with international, State, and local agencies to look for regional solutions to air quality problems along the border. In addition, the EPA is now requiring California to enforce regulations regarding permits for agricultural burning.

Ozone (O_3)

Imperial County is classified as a "moderate" nonattainment area for ozone (O_3) under federal and State standards. In 1991, the Imperial County APCD wrote an implementation plan to bring Imperial County into compliance with the California Ambient Air Quality Standards (CAAQS) for ozone. Because Imperial County's federal ozone classification is "moderate," a State Implementation Plan is not required under the Federal 1990 Clean Air Act.

The Imperial County APCD wrote a State Implementation Plan (SIP) for ozone air quality attainment in 1991. SCAG (Southern California Association of Governments) and the Imperial County APCD will update this plan this year.

Upcoming Conformity Issues

The U.S. EPA established new conformity standards for ozone and particulate matter in July 1997. The new eight-hour ozone standard requires conformity findings to be based on eight hours of monitoring data instead of on just one. It is not likely that Imperial County will be able to attain this standard. As early as July 2000, ARB recommended that Imperial County be designated "nonattainment" for eight-hour ozone. The final list and boundaries of new nonattainment areas won't be known until late fall 2003 or early 2004. The new areas must have a regional conformity determination completed and approved by FHWA and the Federal Transit Administration prior to April 15, 2005, or they will enter a conformity lapse status and lose federal funding/approval for many projects. Generally speaking, eight-hour ozone SIPs will be due in 2007, and attainment dates will fall between 2007 and 2021.

The eight-hour ozone implementation rule will be issued in the next few months. It is probable that there will be a grace period during the transition, and that there will be no requirement to adhere to both standards at any one time.

The EPA revised the federal particulate matter standards in 1997. The PM_{10} standard will be replaced by the more stringent $PM_{2.5}$ standard. The transition to the new $PM_{2.5}$ standard will likely parallel the transition to the eight-hour ozone standard, with the EPA expected to finalize area designations in 2004. There would likely be a one-year grace period after designation, and then the PM_{10} standard would be repealed so that only one designation would apply at a time. It is not known whether Imperial County will be a designated nonattainment area for this pollutant. A California-Mexico Border Air Monitoring Program for $PM_{2.5}$ is underway. $PM_{2.5}$ is associated with diesel engine exhaust, smoking cars, and agricultural burning. Accordingly, the $PM_{2.5}$ standard will support additional emission control requirements, and possibly usage restrictions, on diesel-powered equipment. Emissions controls would be applied at the State level; use restrictions in the form of vehicle/equipment fleet regulations may come from individual air districts. Monitoring will occur from stations located on both sides of the border. Monitors already deployed in Brawley, Calexico, and El Centro show exceedences of the new standard. Generally speaking, $PM_{2.5}$ SIPs will be due in the 2007 to 2008 timeframe, and attainment dates will fall between 2009 and 2015.

Intelligent Transportation System (ITS)

New methodologies can assist in providing better management of future transportation systems. Advanced technology research is one tool that can be used to enhance management of the transportation system. Under ISTEA, the Intelligent Vehicle Highway System (IVHS) Program identified four transportation corridors in the nation to showcase coordinated intelligent transportation system elements. Congress established the ITS Corridors Program to: (1) provide multiyear funding for showcasing ITS applications and benefits, (2) establish national ITS test beds, (3) advance ITS strategic planning, (4) leverage federal aid and other funding sources, (5) expose the public to ITS potentials, and (6) evaluate ITS technologies.

ITS activities in the San Diego region include innovative use of the existing solar powered freeway call box infrastructure, the development of a multifunctional/ multimodal Transportation Management Center (TMC) in Kearny Mesa, the provision of automated traffic operation information to fleet operators in the goods movement, transit, and hazardous material industries, and the development of an IVHS International Border Crossing Operations Strategic Plan. Additional IVHS technologies that can be utilized in the San Diego region include vehicle navigation systems, computerized roadway sensors, changeable message signs, television roadway monitoring devices, smart car sharing systems, and advanced highway maintenance and construction technology.

Another related new technology is the future provision of an Automated Highway Vehicle System (AHVS). ISTEA mandated development of an automated highway and a vehicle prototype from which fully automated intelligent vehicle highway systems can be developed. Caltrans is a core member of The National Automated Highway System Consortium, which was formed to specify, develop, and demonstrate a prototype of a working AHVS in the United States by 2001. AHVS technology will consist of at least two major subsystems, including vehicles and infrastructure. AHVS will showcase features such as adaptive cruise control, object detection, collision warning and avoidance systems, longitudinal and lateral vehicle control, maneuver coordination and navigation systems. The specifications will provide for evolutionary deployment that can be tailored to meet regional and local transportation needs. The consortium will seek opportunities to introduce vehicle and highway automation technologies to achieve benefits for all surface transportation users. An AHVS Proof of Technical Feasibility Demonstration occurred during August 1997 on the existing I-15 HOV lanes in San Diego.

2020 Transportation Concept Facility Improvements

Table 12 shows the facility improvements to SR-7 that are part of the 2020 Transportation Concept.

Post-2020 Ultimate Transportation Corridor

The UTC describes the long-term (beyond the 20 year planning period) need for transportation facility improvements. The UTC for SR-7 from the international border calls for the addition of one lane in each direction if needed.

TABLE 12

2020 TRANSPORTATION CONCEPT FACILITY IMPROVEMENTS

Segment/ County/ Post Mile	Location	Improvement Description	Peak Hour Operating LOS	Concept LOS
1) IMP 0.0-1.2	U.S./Mexico Border to SR-98	No Improvements	B	D
2) IMP 1.2-6.7	SR-98 to I-8	Construct 4E	-	D

LOS= Level of Service

4E= Four Lane Expressway

ACRONYMS

ADT	Average Daily Traffic
AHVS	Automated Highway Vehicle System
APCD	Air Pollution Control District
FHWA	Federal Highway Administration
IBTC	International Border Trade Corridors
ICES	Intermodal Corridors of Economic Significance
IRRS	Interregional Road System
ISTEA	Intermodal Surface Transportation Efficiency Act
ITIP	Interregional Transportation Improvement Program
ITS	Intelligent Transportation Systems
IVHS	Intelligent Vehicle Highway System
LOS	Level of Service
MSL	Maintenance Service Level
NHS	National Highway System
PR	Project Report
PSR	Project Study Report
RTIP	Regional Transportation Improvement Program
R/W	Right of Way
SCAG	Southern California Association of Governments
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
TCR	Transportation Concept Report
TDM	Transportation Demand Management
TMC	Transportation Management Center
TSM	Transportation System Management
UTC	Ultimate Transportation Corridor
V/C	Volume to Capacity
POE	Point of Entry
NAFTA	North American Free Trade Agreement
F&E	Freeway and Expressway
ICT	Imperial County Transit
WTO	World Trade Organization
IGR	Intergovernmental Review
CEQA	California Environmental Quality Act
SHOPP	State Highway Operations and Protection Program
CVEF	Commercial Vehicle Enforcement Facility
SENTRI	Secure Electronic Network for Travelers Rapid Inspection
DCL	Dedicated Commuter Lanes
ECS	Exit Control Systems
SSAB	Salton Sea Air Basin
TEA 21	Transportation Equity Act
PM_{10}	Particulate Matter
0_3	Ozone
EPA	Environmental Protection Agency
NAAQS	National Air Quality Standard
CAAQS	California Ambient Air Quality Standard
SIP	State Implementation Plan

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I approve this Transportation Concept Report as the guide for development of State Route 7 over the next 20 years.

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